Received: 29 November 2020 | Accepted: 18 May 2021

DOI: 10.1002/curj.120

ORIGINAL ARTICLE

The Curriculum Journal BERA

What styles of reasoning are important in primary English?

Michaela Oliver

School of Education, Durham University, Sunderland, UK

Correspondence
Michaela Oliver, School of Education, Durham University, St Hild's Lane, Durham, DH1 1TA, UK.
Email: michaela.oliver@durham.ac.uk

Funding Information
The PhD that this paper is based upon was funded by the Economic and Social Research Council (ESRC), awarded through the Northern Ireland and North East Doctoral Training Partnership (NINEDTP). Grant number: ES/J500082/1

Abstract

The importance of teaching reasoning in schools is widely recognised. Yet this has presented teachers with difficulties, particularly in primary education. Difficulties partially stem from a lack of cohesive theory about reasoning for education and a lack of specificity about it in the English National Curriculum. One route to improved teaching of reasoning is through recognition of the importance and prevalence of discipline-specific practices. This paper draws on socio-cultural theory and disciplinary literacy research to argue that some reasoning practices are discipline specific. The theoretical lens of reasoning styles is adopted. A cognitive history approach has been used to create a framework of reasoning styles important in primary English. English represents a curriculum area that is currently poorly understood in terms of its prevalent reasoning practices. This paper, therefore, makes important theoretical and pedagogical contributions to existing research. Examples of student engagement with identified reasoning styles are provided. The framework and accompanying examples will help teachers to support the development of student reasoning, particularly in the subject of English. Developing students' meta-awareness of

patterns of language use is beneficial. Development may also support students to become fuller members of the English academic community.

KEYWORDS
curriculum, curriculum development, curriculum innovation, literacy, pedagogy, primary schools, primary teachers, subject knowledge, subjects

INTRODUCTION

A broad definition of reasoning as 'the process of drawing conclusions' (Leighton, 2004, p. 3) is adopted here. This encompasses widely held beliefs about what reasoning involves, and fits with understandings held within wider society, including schools. There is widespread recognition of the importance of teaching reasoning in schools (McPeck, 1981; Trilling & Fadel, 2009). Reasoning holds an important role in approaches like 21st Century Skills. These represent educational goals designed to prepare students to participate in democratic societies through processes of 'civilised, rational, collaborative reasoning' (Asterhan & Schwarz, 2016, p. 164; Chalkiadaki, 2018).

Yet, although overwhelmingly advocated, the teaching of reasoning has presented schools with difficulties, particularly in primary education (Mercer & Howe, 2012; Nickerson et al., 2013; Wegerif, 2010). It is suggested that teachers find it difficult to understand principles underpinning research into thinking and reasoning and struggle to modify their practice in light of research (Lefstein, 2008; Mercer & Howe, 2012; Sedova et al., 2016). A lack of cohesive and uncontested theory about reasoning and how it should be embedded in education compounds these difficulties. Discussion about reasoning in the English National Curriculum (Department for Education [DfE], 2014) is limited, particularly in specific subject areas. This further complicates matters for schools.

The difficulties faced by schools in teaching and understanding reasoning processes mean that it is necessary to explore ways in which teaching for reasoning can be developed and supported. One way in which this might be supported is through the exploration of discipline-specific elements of reasoning. There is a growing body of literature investigating and emphasising the prevalence of discipline-specific practices. The following section will consider research related to discipline-specific practices more generally, before exploring the concept of discipline-specific reasoning practices (described as 'styles'). The ESRC-funded PhD project that this paper draws upon aimed to stimulate explicit teaching of reasoning styles in primary English lessons in two primary schools in North East England. A conceptual enquiry phase was dedicated to identifying reasoning styles important and relevant in primary English (the main focus of this paper). Methods used to identify these reasoning styles will be detailed before the framework is shared. Examples of student engagement with each reasoning style (or reflections on how these might manifest) will be provided. Illuminating key reasoning practices important in primary English should support the teaching of reasoning in this domain.

DISCIPLINE-SPECIFIC PRACTICES

There is increasing recognition of cultural and discipline-specific practices. Sociocultural theory explicitly considers the cultural influence on thinking, learning and communication,

and relationships between these processes (Daniels, 2001; Mercer, 2007; Wells & Claxton, 2002; Wertsch, 1985). In sociocultural theory, language and other tools are used to mediate knowledge (Mercer, 2000; Vygotsky, 1962, 1978; Wertsch, 1991). The importance of communication and interaction is foregrounded (Fernández et al., 2001; Howe, 2010). Knowledge is shared and understandings of shared experiences are constructed jointly (Mercer, 2007). With the predominance of groups and communities in society, this theory recognises the importance of shared social practices and ways of thinking, communicating, and reasoning within such groups (Mercer, 2007).

Disciplinary literacy research is also pertinent to the consideration of discipline-specific practices. This theory argues that disciplines have their own ways of reading, writing, communicating and reasoning, which should be taught across the school curriculum (O'Brien et al., 2001; Shanahan & Shanahan, 2012). It is argued that by developing literacies within disciplines, students can be supported to develop 'disciplinary habits of mind…[which represent] practices consistent with those of content experts' (Fang, 2012, p. 20). These habits refer to different ways of knowing, doing, and communicating in each subject (EEF, 2018; Shanahan & Shanahan, 2012).

In line with the present project's aims, calls to promote understanding of disciplinary structures have been made (Bruner, 1978; Perkins, 2006; Schwab, 1978). Perkins discusses epistemes that characterise disciplines: 'epistemes are manners of justifying, explaining, solving problems, conducting enquiries, and designing and validating various kinds of products or outcomes' (2006, p. 52). He considers difficulties faced by learners in their attempts to play the 'epistemic games' of disciplines: 'many students never get the hang of it, or only slowly, because the epistemes receive little direct attention' (Collins & Ferguson, 1993; Perkins, 2006, p. 53). There is therefore an important argument for 'surfacing and animating' (Perkins, 2006, p. 50) key reasoning practices within a discipline (see also Hodgson & Harris, 2012, 2013; Lea & Street, 1998). Engagement in disciplinary practices can help students to become accomplished members of an academic community. Developing meta-awareness of language practices can benefit all students, regardless of future academic pathways. It can illuminate discursive practices and empower students to operate knowingly within these systems (Fairclough, 2013).

This project recognises and embraces domain-specific practices, particularly in terms of reasoning. Drawing on socio-cultural theory, it is argued that knowledge and reasoning styles develop first within cultures (considered here in terms of academic disciplines) as a result of interactions between people, over time.

REASONING STYLES

First, it is important to distinguish the concept of *reasoning styles* from that of *learning styles*. Learning styles theory bears no relation to reasoning styles as explored here. Reasoning styles relate to different ways of forming and defending conclusions. Styles vary across disciplines (Bueno, 2012; Crombie, 1995; van Drie & van Boxtel, 2008; Hacking, 2012). Reasoning styles are defined as 'a pattern of inferential relations…used to select, interpret, and support evidence for certain claims' (Bueno, 2012, p. 657). It is argued that disciplines have developed styles of reasoning to draw conclusions and decide upon criteria for valid arguments. This concept draws upon the academic field of *cognitive history* (Nersessian, 1995; Netz, 1999; Tweney, 2001). Cognitive history suggests that reasoning can be found as ways of arguing in discussion and written texts, in line with sociocultural theory. Thus, to describe reasoning styles drawn upon in an academic discipline, it is necessary to look towards the culture of interest (Carrithers et al., 1990; Hacking, 1982; Taylor, 1982; Ziman, 1978).

The domain-specific approach to reasoning styles has been developed and explored in some fields, yet is largely ignored in others (particularly in arts-based domains). Crombie (1995) describes six styles of thinking prevalent in science (described as 'reasoning' and later 'thinking and doing' by Crombie's colleague, Hacking [1992, 2012]). These styles were identified following extensive analysis of European scientific texts spanning over two thousand years. Crombie's contribution provides a framework for identifying reasoning styles in other disciplines, through analysis of written material and immersion in a culture (see also, Kind & Osborne, 2016; Osborne et al., 2018). Mirroring some objectives of this project, van Drie and van Boxtel (2008) constructed a framework of historical reasoning styles used in history education. Despite such developments, systematic literature searches have failed to identify research publications explicitly relating to reasoning styles in the academic subject of English or its school-based equivalent.[1] The National Curriculum (DfE, 2014) also lacks a clear definition of reasoning. This is further complicated because there is not a unified English curriculum from primary to Higher Education in the UK. Thus, despite the growing emphasis on developing understanding and teaching of disciplinary literacies, reasoning practices in English are poorly understood.

Drawing on theories concerned with discipline-specific practices, the concept of reasoning styles has important implications for education. A clear framework of discipline-specific reasoning styles can be used in teaching. This should strengthen students' capacities to reason in domain-specific ways. This paper asks: *what styles of reasoning predominate in the academic domain of English literature and have most relevance for the primary English curriculum?* A conceptual enquiry phase in the PhD project that this paper draws from identified discipline-specific reasoning styles important and relevant in primary English. This paper will identify and exemplify these reasoning styles.

METHODS

Since primary English draws upon the discipline and culture of English literature (although not exclusively so), this project built on the cognitive history tradition exemplified by Crombie (1995). Thus, key styles of reasoning were sought in an academic context. Given the pragmatic focus of the project, efforts to ensure that these styles are also appropriate for primary English were made.

Three main stages were involved in the creation of the framework of reasoning styles, using thematic analysis: 'a method for identifying, analysing, organizing, describing, and reporting themes found within a data set' (Nowell et al., 2017, p. 2). The first stage considered an existing framework of reasoning styles created for another domain (science; Crombie, 1995) and applied it to the subject of interest (English). Although problematic, using an existing framework that engages with different ways of reasoning represented a useful starting point. The evolution of styles of reasoning as a concept was therefore considered, taking existing developments as a starting point. Nevertheless, potential styles identified were tentative and subject to reinforcement from consideration of both English literature and primary English domains (stages 2 and 3).

The second stage in creating the framework of reasoning styles explored products from the academic culture of English literature. Styles of reasoning that proficient academics engage in were observed. Themes, tropes, and techniques used in literary critique were analysed. Ways in which reasoning in literary critique corresponds to styles of reasoning in science were considered, particularly in terms of implicit argumentation techniques and structures adopted (such as classification).

The third stage explicitly engaged with the pragmatic focus of the project and the importance of ensuring that reasoning styles are relevant and applicable to primary education.

Thus, the Programme of Study for English in the National Curriculum (DfE, 2014), the end of KS2 SAT materials, and a document advising KS2 test developers (Standards & Testing Agency, 2015) were analysed. The analysis focused on where reasoning was discussed or required, and on whether any potential styles identified during the previous two stages were implied. Each reasoning style presented in the framework is therefore considered in relation to curriculum materials (although statements from these documents rarely make reasoning skills explicit).

Consideration of the primary English curriculum forms part of selection criteria developed to guide and enforce rigour on the framework's creation. Thus, styles for primary English must demonstrate:

- *Theoretical and academic support*. Styles should be identifiable in the academic culture of English literature; they should represent key ways of forming and justifying conclusions within products of the culture.
- *Applicability to primary English*. Although school-based examples will illustrate differences in progression, hallmarks of individual styles should be applicable and appropriate from primary school onwards. Styles should be complementary to current National Curriculum requirements.
- *Internal coherence*. Styles should be distinguishable from one another. While overlaps between styles of reasoning may occur in practice, descriptions of each style should be distinctive.
- *Capacity to communicate ideas with teachers*. Schools should be able to understand main ideas so that they can adapt their practice (if research suggests that this would be beneficial) in efforts to promote reasoning styles in English.

The following section will present the framework of styles developed and will illustrate engagement with the stages described above.

FINDINGS

Based upon the analysis described above, five key styles of reasoning will be discussed. It is important to acknowledge that they are not presented as objectively and exclusively identified. As Hacking stated concerning scientific styles: '[styles of reasoning] do not answer to some other, higher, or deeper, standard of truth and reason than their own…they have become part of our standards for what it is to find out the truth' (2012, p. 605). There may be additional styles important in primary English, or some may need to converge following empirical research. There is no hierarchical structure within the styles identified. The importance or predominance of each varies according to focus, literary text, and purpose of analysis.

The five key styles to be discussed are:

- Genre-based reasoning (GRE)
- Language-based reasoning (LRE)
- Analogy-based reasoning (ARE)
- Contextual reasoning (CRE)
- Structural reasoning (SRE)

GENRE-BASED REASONING (GRE)

GRE was initially mapped from Crombie's (1995) scientific style of 'ordering of variety by comparison and taxonomy' (Hacking, 1992, p. 4). This focused on classificatory thinking and reasoning. Initial mapping was strengthened through engagement with academic literature in English and consideration of primary curriculum documents. GRE focuses on conventions of genre and uses genre categories to support the process of forming conclusions: 'the purpose of criticism by genre is not so much to classify as to clarify…bringing out a large number of literary relationships that would not be noticed as long as there were no context established for them' (Frye, 1957, pp. 247–248).

The use of genre within literary analysis has been criticised by some amid claims that categories reduce and distort individual literary texts (Blanchot, 1959; Croce & Fudemoto, 2007; Frow, 2006; Rosmarin, 1985). Despite such objections, analysis in this study revealed widespread engagement with genre in both the academic culture of English literature and in primary English materials. Like Frye (1957), Bruner argues that genres are: 'ways of telling that predispose us to use our minds and sensibilities in particular ways' (1991, p. 15). Consideration of genre conventions, therefore, represents a useful means of interpreting texts. This is also apparent in primary education.

Genre in the English Programme of Study

Although the term 'genre' is used only once in the English Programme of Study (DfE, 2014, p. 83), it is implied much more frequently. In the *comprehension* aspect of *reading* for years 3–4, students should: 'listen to and discuss a wide range of fiction, poetry, plays, non-fiction, and reference books or textbooks' and 'identify themes and conventions in a wide range of books' (DfE, 2014, p. 36). This implies consideration of thematic aspects of genre, where literary texts are grouped according to their main messages and content structures. The following statement draws upon structural components of genre: 'reading books that are structured in different ways and reading for a range of purposes' (DfE, 2014, p. 36). *Notes and guidance material* provides examples of letter greetings and first-person diaries to illustrate various generic structures (DfE, 2014).

Requirements for years 5–6 are almost identical to those for years 3–4. There are suggestions to extend the range of texts students are exposed to but specific guidance is not offered (as was previously provided in the National Literacy Strategy [DfEE, 1998]). This could be advantageous in that schools are freed to select texts based on the knowledge of their students. However, the 'increasingly wide range…' (DfE, 2014, p. 44) of texts for years 5–6 is vague and does not specify elementary or canonical genres deemed important in primary education by proponents like Christie (2013). Moreover, there is no obvious framework for progression in terms of genre-based knowledge and understanding in the Programme. By failing to specify how students should develop genre-based knowledge and understanding progressively, teachers may encounter difficulties in the interpretation and pitching of requirements.

Despite the limited and undeveloped focus on genre in the National Curriculum (DfE, 2014), there are important arguments for explicitly focusing on genre within English education. Christie (2013), a key figure in systematic functional linguistics (SFL), suggests that by bringing genres into consciousness, modes of creating meaning are made visible to students which is empowering. Christie also points to the cultural nature of genres by suggesting their emergence occurs 'because they represent ways of getting things done' (2013, p. 12). She suggests 'learning the genres of one's community is a necessary part of learning its culture and its meanings' (2013, p. 13). This represents a similar stance to that taken in

this project. It also relates to the constructivist aim of 'surfacing and animating' (Perkins, 2006, p. 50) tacit ideas to permit fuller participation in disciplinary practices.

LANGUAGE-BASED REASONING (LRE)

LRE explicitly considers language and linguistic devices in the process of forming conclusions and interpreting texts. Grammatical and literary features include consideration at word level: vocabulary, word-class features, repetition, onomatopoeia, and alliteration, among others. Sentence-level consideration may include analysis of syntactical structures, rhetorical questions, pun, hyperbole, oxymoron, simile, or figures of speech. Text-level features may focus on emotive language, personification, pathetic fallacy, metaphor, imagery, symbolism, or irony.

Different approaches to literary criticism call for varying levels of linguistic focus. *Historicism* considers literature as embedded within the historical culture in which it was written. The wave of *ahistoricism* can be seen in the *formalist* approach to literature. These approaches view literature as 'an object in its own right… effectively isolating the literary artefact from both broad social forces and the more localised and personal circumstances of its author' (Kharbe, 2009, p. 299). *New Criticism*, prevalent during the 1930s–1960s, emphasises analysis of only what is contained within a text, through a process of close reading. It was suggested that this could enhance the objectivity of literary study, to heighten its authority and position within the curriculum (Klages, 2006). Despite variation in approaches to literary critique, engagement with materials from the academic culture of English literature suggests that in much literary analysis, language and linguistic elements are used to support reasoning processes. A focus on language is also apparent in the English Programme of Study (DfE, 2014).

Language in the English Programme of Study

Both reading and writing elements require engagement with language and linguistic features (DfE, 2014). Specific guidance on grammatical terms and techniques is offered, and a Spelling, Punctuation and Grammar end of KS2 SAT assesses student proficiency in these areas.

Overall *reading* aims state: '…good comprehension draws from linguistic knowledge' (DfE, 2014, p. 15). Years 3–4 students should be taught to: 'identify how language, structure, and presentation contribute to meaning' (DfE, 2014, p. 37). This requires explicit consideration of language and its effects. These aims are virtually identical to requirements for years 5–6 (with additional focus on etymology and morphology). An additional *comprehension* requirement is also noteworthy: 'discuss and evaluate how authors use language, including figurative language, considering the impact on the reader' (DfE, 2014, p. 45). This demands consideration of linguistic choices and the effects that these have. Students in years 5–6 should also 'be taught the technical and other terms needed for discussing what they hear and read, such as metaphor, simile, analogy, imagery, style and effect' (DfE, 2014, p. 46). Requirements in terms of understanding and knowledge of terminology increase in sophistication across year groups (e.g. DfE, 2014, p. 75).

While there is debate about the need to teach linguistic terminology at this early stage (Centre for Research in Writing University of Exeter, 2016), it is evident that the Programme of Study engages with the importance of language and linguistic features within primary English. This focus on language reinforces what is observed in the academic culture of

English literature. Explicit reflection on language during the process of forming conclusions is captured in the language-based reasoning style.

ANALOGY-BASED REASONING (ARE)

Analogy-based reasoning (ARE) was initially mapped from Crombie's (1995) scientific style of 'hypothetical construction of analogical models' (Hacking, 1992, p. 4). Early mapping was strengthened through engagement with academic literature in English and consideration of primary curriculum documents.

Analogy is defined as 'a comparison between one thing and another, typically for the purpose of explanation or clarification' (Lexico Oxford, 2020). Analogy includes allusions and allegories, as well as language devices such as simile and metaphor. By drawing attention to similarities between two elements, greater understanding is encouraged. Comparison may consider dissimilar aspects together, identifying relationships and connections previously unseen.

Many writers deliberately create themes or characters in opposition: good versus evil, man versus nature, individual versus society, and so on. Levi-Strauss (1955), part of the structuralist movement in literary theory, suggests that units forming a structure often group in opposing binary pairs. Derrida (1992) is associated with ideas of deconstruction. He claims that within these binary pairs, one element will always be positive and the other negative (Klages, 2006). Opposing forces (or structures) are subtly woven throughout a text. Yet by presenting characters or themes in opposition, a writer, and subsequently a reader, can use analogy to explain or clarify.

Analogy is commonly used in the domain of English literature. Academics compare diverse sources for different purposes. When interpreting a text, comparisons with other literary works are often made. This may be from works by the same author, from a similar historical time period, or from an alternative medium (e.g. art, music, historical account). The purpose of posing analogies is sometimes to illustrate an underlying theme or issue common to both texts (or artefacts). Yet analogies also seek to pose and explore contrasts. They may consider seemingly different viewpoints from a single author or within a similar historical context. This consideration can be used to explore authorial intentions and to add additional layers of complexity to interpretation. The prevalence of analogy and ARE observed in the academic culture is also witnessed in primary English education.

Analogy in the English Programme of Study

Teaching students to compare, a fundamental element of ARE, begins in years 5–6 where students: 'mak[e] comparisons within and across books' (DfE, 2014, pp. 44–45). *Notes and guidance* material adds:

> They should have opportunities to compare characters, consider different accounts of the same event, and discuss viewpoints (both of authors and fictional characters), within a text and across more than one text.
>
> …Students should be shown how to compare characters, settings, themes, and other aspects of what they read (2014, p. 46).

Activities such as character comparisons are important when comparing within texts. These may draw upon characters with fundamental differences (e.g. the protagonists of Mark Twain's

The Prince and the Pauper (1881/1979)) or those embodying alternative themes (e.g. hero versus villain). Settings are another rich source for comparisons. While considering differences between physical settings can be revealing, as students develop understanding, they may consider emotions or themes associated with particular settings. Such consideration can enhance the understanding of a literary text.

Comparing *across* texts might be achieved by comparing versions of the same literary character from different publications. For example, the fairly meek Little Red Riding Hood of Grimm's fairy tale is somewhat different from the version who 'whips a pistol from her knickers' in Dahl's *Revolting Rhymes*! (2001). Comparing texts based upon a shared historical event meets the Programme's objective of considering different accounts of the same event. By identifying similarities and differences between such texts, students are encouraged to consider the authorial choice. These analogies can form the basis of reasoning about texts.

Consideration of analogy and ways in which students can progress in this understanding is not made explicit in the Programme of Study. Nevertheless, a comparison is required in English education and there is clear engagement with the comparison element of analogy. This focus reinforces what is observed in the academic culture of English literature. The explicit posing of analogies during the process of forming conclusions is captured in ARE.

CONTEXTUAL REASONING (CRE)

CRE was initially mapped from Crombie's (1995) scientific style of 'historical derivation of genetic development' (Hacking, 1992, p. 4). CRE uses contextual factors to support the formation of conclusions about a text. Contextual factors could include historical, biographical, social, cultural, political, religious, moral, and/or economic considerations.

Attention to contextual factors can support meaning-making and reasoning in English. By considering contextual issues, works can be considered as part of their social milieu, within the zeitgeist in which they were written (Gill, 2006). Focus on context is evident in the values of *new historicism* and *cultural materialism* (Klages, 2006). Briefly, commonalities between the two approaches to literary analysis include the belief that: 'subjects cannot transcend their own time…The ideological constructions that authors live in, and have internalised, inevitably become part of their work, which is therefore always political and always a vehicle for power' (Bertens, 2001, p. 185). Within these approaches, literary and non-literary texts are considered in conjunction to enrich understanding of the context within which texts are constructed.

Despite the prominence of CRE in literary analysis, there is some opposition to this method of interpretation. Ellis (1974) asks whether it is possible to infer an author's intentions from knowledge of their biographical context. The *intentional fallacy* of Wimsatt and Beardsley (1946) also suggests the elusive nature of authorial intent, perhaps even to authors themselves. It is argued that to reduce consideration of literature to 'explanations' provided by biographical and/or local historical knowledge is to reduce the text to something that is no longer literature: 'the literary value of the text resides precisely in the fact that this limited social situation was outgrown' (Ellis, 1974, pp. 136–137).

Despite disagreement about the importance of using biographical and historical information to support literary interpretation, many academics recognise the value of considering more general shared social experiences and meanings when analysing literature. Ellis recognises the value of 'being initiated into the community within which the literary text is literature', including knowledge of 'social and linguistic conventions' (1974, p. 146). Whether explicit engagement with context is valuable or appropriate is perhaps an unnecessary consideration here. CRE is a common style observed in the academic community and with relevance to primary education.

Context in the English Programme of Study

Consideration of context is evident from KS1. *Reading* aims state: 'good comprehension draws…on knowledge of the world' (DfE, 2014, p. 15). *Writing* aims state: 'effective composition…[requires] awareness of the audience, purpose and context' (2014, p. 16). These aims reflect the need to engage with contextual features influencing texts that children read and write from the first year of formal education.

Years 1 and 2 *comprehension* statements require students to 'draw on what they already know or on background information and vocabulary provided by the teacher' (2014, p. 22 and p. 29). This establishes the importance of using prior knowledge to enhance understanding of a text, with support from teachers (particularly important given the age and varied knowledge bases of KS1 students). W*riting composition* statements for year 2 require students to 'writ[e] narratives about personal experiences and those of others (real and fictional); writ[e] about real events' (DfE, 2014, p. 32). Students must therefore engage with events that provide a context for their writing.

The KS2 section of the Programme does not reference context as explicitly as for KS1, although the KS1 programme should be reinforced and revisited throughout primary years (STA, 2015). Moreover, there is little consideration of progression in terms of engagement with context. Nevertheless, requirements to engage with context reinforce what is observed in the academic culture of English literature and approaches to literary analysis. Explicit reflection on context during the process of forming conclusions is captured in CRE.

Structural reasoning style (SRE)

SRE considers the structure of a literary text when forming conclusions. Structure is explored in terms of ordering across a whole text and the ordering of individual sentences. SRE can include consideration of how a theme, character, or relationship develops across a text. This particularly relates to narrative writing: 'structure in narrative fiction is often defined as the planned framework or ordering of images, characters, and episodes at rhythmical intervals' (Rothwell, 1963, p. 603). In narrative writing, several structural devices have been identified as tools to enhance unity: 'continuous narrative; dialogue; narrative viewpoint; setting; repetition and repetitive motifs; working with time; appendices; epilogue' (Childs & Moore, 2003, p. 22). This list provides a useful starting point to illustrate various devices which may be considered within SRE. Given the complexity of structure, elements are often discussed separately.

Within non-fiction, structural consideration may reflect on sequencing of ideas, arguments, or text sections across a whole text, and at sentence level. SRE does not simply involve summarising each chapter according to plot, or each section according to key content. Rather, SRE considers ways in which an author develops unity within a text and explores the means used to synthesise individual elements of writing.

Consideration of structure often accompanies discussion about genre (e.g. Kusch, 2016). Lack of distinction between key terms is potentially problematic since this project seeks to explicate distinct styles of reasoning within English. Mayfield offers a solution in proposing two distinct categories: *genre structure* and *text structure*: 'in addition to a text's unique structure, every genre has a particular structure that is unique to the genre itself' (2010, p. 43). This approach may help to reconcile similarities between genre and structure while supporting the capacity to distinguish between two separate styles of reasoning. The possibility of overlaps in usage remains. Yet, by considering text structure within SRE, and genre

structure within GRE, a distinction between the two styles is made. Opportunities for considering both unique structures and genre-based structures when interpreting texts should be offered. The focus on structure observed in the academic culture can also be seen in primary education.

Structure in the English Programme of Study

Consideration of structure and its components is apparent from year 1 in the Programme: 'students begin to understand how written language can be structured' (DfE, 2014, p. 23). Year 2 statements also refer to structural elements: 'discussing the sequence of events in books and how items of information are related; being introduced to non-fiction books that are structured in different ways' (DfE, 2014, p. 29). While *sequence* predominantly refers to chronology, by considering how items are related, students in KS1 are introduced to the concept of unity within texts (although this terminology is probably not age-appropriate). This is reinforced in *notes and guidance*: 'students should learn about cause and effect in both narrative and non-fiction' (DfE, 2014, p. 30). This indicates the importance of considering elements that create a coherent structure (for example, by matching events with subsequent behaviour).

Comprehension requirements relating to structure are almost identical in years 3–4 and years 5–6. In both phases, students should 'read books that are structured in different ways' (DfE, 2014, p. 36). The requirement that students should 'identify how language, structure, and presentation contribute to meaning' (DfE, 2014, p. 37) is also identical (although the need for independent reading is introduced in upper KS2). Such statements identify a role for structural consideration. However, statements are vague and provide limited advice to schools in terms of progression.

Structural consideration is also indicated in KS2 *writing composition* statements where students are required to consider structural devices employed by authors to achieve cohesion and unity:

> Us[e] a wide range of devices to build cohesion within and across paragraphs;
>
> Us[e] further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining] (2014, p. 48).

Statements requiring engagement with structure are often vague (note the 'wide range of devices' without examples) and determining progression is difficult. Nevertheless, there is clear consideration of structure within the English Programme of Study. This reinforces considerations observed in the academic culture of English literature. Explicit engagement with structure during the process of forming conclusions is captured in SRE.

EXEMPLIFICATION OF REASONING STYLES FRAMEWORK

The reasoning styles framework is presented in Table 1. Examples of student engagement with three reasoning styles are taken from data gathered during the exploratory investigation phase of the PhD (reported elsewhere). For two styles not yet subject to empirical exploration, reflections on how they might appear in student dialogue are offered.

CONCLUSION

The importance of teaching reasoning has been established (McPeck, 1981; Trilling & Fadel, 2009). Yet difficulties of doing so have been identified (Mercer & Howe, 2012; Nickerson et al., 2013; Wegerif, 2010). One route to improved teaching of reasoning in schools is through recognition of the importance and prevalence of discipline-specific practices and the clear identification of these. Drawing on sociocultural theory, it is argued that academic domains have developed particular styles of reasoning to draw conclusions and to judge those made by others (Bueno, 2012; Crombie, 1995; van Drie & van Boxtel, 2008; Hacking, 1992, 2012; Kind & Osborne, 2016). The concept of reasoning styles and the field of cognitive history draw clear parallels to disciplinary literacy (EEF, 2019; Fang, 2012; Hinchman & O'Brien, 2019; O'Brien et al., 2001; Shanahan & Shanahan, 2012); communities of practice theory (Lave, 1988; Lave & Wenger, 1991); the notion of epistemes (Perkins, 2006); and to the idea of genres as 'cultural tools designed for pursuing collective scholarship and inquiry' (Mercer, 2013).

In line with the cognitive history approach, identifying discipline-specific reasoning styles requires careful examination of 'products' from the culture: reasoning can be found as ways of arguing in discussion and written texts. Calls to look towards the culture of interest when attempting to describe prevalent reasoning styles have been made (Carrithers et al., 1990; Hacking, 1982; Roth, 1987; Taylor, 1982; Ziman, 1978). Extensive work in this endeavour has been undertaken in science (Crombie, 1995; Hacking, 2012) and advances have been made in history (van Drie & van Boxtel, 2008).

This study contributes to existing research by investigating the culture of primary English and describing a framework of reasoning styles important and prevalent within this culture. Five reasoning styles have been identified as important for primary English. An initial process of mapping from reasoning styles identified for science was followed by explicit reflection on reasoning styles drawn upon in the academic culture of English literature. Consideration of the appropriateness of styles to the primary curriculum was then made explicit. This is reinforced through exemplification of how styles might (or have) manifest(ed) in student dialogue.

Findings from the project complement major tenets of sociocultural theory. Development of the framework of reasoning styles required immersion in disciplinary practices of English literature and primary English. Reasoning styles in the framework created here, therefore, represent culturally developed practices shared and used within the discipline. Creation of the framework was guided by clear criteria which enabled critical evaluation of reasoning practices demonstrated in the domains of English literature and primary English. This analysis supported the construction of a framework of reasoning styles that has academic and theoretical support, applies to Primary English, demonstrates internal coherence, and can be communicated with schools and teachers. The framework of reasoning styles for primary English address the project's first research question (and the focus of this paper): *what styles of reasoning predominate in the academic domain of English literature and have most relevance for the primary English curriculum?* This framework, therefore, represents an important theoretical contribution to existing literature focusing on the concept of domain-specific practices generally, and reasoning styles in particular.

This research is primarily located within the context of the English curriculum in England. Nevertheless, readers may be invited to consider the wider relevance of arguments and findings to mother-tongue teaching in equivalent Language Arts lessons. While expertise beyond the English context is not professed here, the location of reasoning styles identified within literary and language studies may have broader relevance. For example, a focus on genre, structure, analogy, and context would be important to the consideration of literature regardless of the text's language, albeit perhaps with varying degrees of prevalence. Language-based considerations would also be important across mother tongue Language

TABLE 1 Framework of reasoning styles for primary English

Reasoning style	Description of style	Examples of, or reflections on, primary student engagement in style
Genre-based Reasoning (GRE)	Consideration of *genre*(s) drawn upon within a text, including associated conventions, how these are employed, and to what effect	[Y5 student discussing the importance of a moral lesson in the fairy tale genre]: 'Say for Red Riding Hood, the mother says stick to the path but don't go off the path otherwise you'll lose it and you might walk into strangers and you're not to talk to strangers and she went off that path and it teaches the people who read it…to listen to their mum and not to ignore her' [Y6 student discussing the Robinsonade (or desert island) genre]: 'The people are usually quite determined and quite friendly, because, in Kensuke's Kingdom, Kensuke and Michael are helping each other to survive. In Robinson Crusoe, Robinson helps Friday and they save some more people and in Swiss Family Robinson they work together to help each other to survive' Both students recognise the importance of particular conventions within different genres. They apply this understanding to individual texts and justify inferences based on genre features
Language-based Reasoning (LRE)	Consideration of the impact or effect of linguistic devices and *language* choices	[Y5 students completing a diamond ranking task with cards containing different emotion words for a character]: 'No, because "confused" and "unsure", they basically mean the same thing, but if you're going to change one of them you have to change the other [so they remain aligned in the same row of the diamond structure indicating their equal importance]' 'Yes [Michael was "determined"] because he said it felt more than an expedition. An expedition is very long and hard, so you would have to have determination for it, and you're climbing a mountain, so that would take a while. So, you would be determined throughout the whole thing' These examples demonstrate explicit engagement with vocabulary and its meanings (an element of LRE). Nuances between synonyms are explored and used to justify task decisions and to make inferences about a text

(Continues)

TABLE 1 (Continued)

Reasoning style	Description of style	Examples of, or reflections on, primary student engagement in style
Analogy-based Reasoning (ARE)	Consideration of comparison and analogies to other sources which create, explore and contrast images, characters, and themes within and between literary texts	[Y5 students completing an odd one out task with three characters from Morpurgo's *Kensuke's Kingdom* (1999)]: 'I would choose Michael's mother [as the odd one out] because Michael and Kensuke both have the same thing. They're both stranded. Like family or relatives have died, so they both have a similar story'. 'Kensuke could also be the odd one out because Michael and Michael's mother, well, they both went on a ship journey, whereas Kensuke didn't go on the ship journey and fall off. He just- Well, there was a storm, wasn't there?' Students, therefore, engage in ARE to make task decisions and explicitly compare characters to decide who might be considered 'odd'
Contextual Reasoning (CRE)	Reflection upon *contexts* (e.g. historical, social, religious, biographical) in which a text is set and/or was created	Students might recount and describe contextual factors in which a literary text was produced (e.g. historical, biographical, social, cultural, political, religious, moral, or economic circumstances/situations). They might use observations of contextual details to explain and justify interpretations of a text. For example, when reading Nina Bawden's *Carrie's War* (1974), students might draw upon historical knowledge of the events of World War Two to support their interpretations (of characters and/or events). Contextual detail might be used to justify the manner and behaviour of particular characters
Structural Reasoning (SRE)	Reflection upon organisational devices and *structural* features used within a text to achieve a sense of unity	Students might recount and describe structural features employed by an author to achieve unity (e.g. the use of repetition within a text). They might use observations of structural features to explain and justify their interpretations Students might reflect on narrative and non-fiction text structures when interpreting texts. They might consider the effects of various sentence structures (including repeated refrains). Other structural considerations applicable to the primary stage include a focus on chronology and coherence. Students might consider cause and effect (what prompts particular events/behaviours/actions)

Arts-based lessons (e.g. through consideration of linguistic devices used in a text and their effects). Thus, reflection on the importance and prevalence of reasoning styles when reading and analysing literature as part of English lessons may have broader relevance.

In addition to theoretical contributions, this research contributes to pedagogical literature. The comprehensive framework of reasoning styles clearly describes each style of disciplinary-based reasoning identified for primary English. Reasoning styles are considered alongside National Curriculum documents which demonstrate how individual styles complement current curricula requirements. The framework allows for the possibility of targeting discipline-specific reasoning styles and then promoting, capturing, and measuring these in student dialogue. The project's empirical phase, to be reported elsewhere, provides further exploration and fuller evidence about this possibility. Nevertheless, examples of student engagement with three reasoning styles in Table 1 provide a tentative indication of the possibility of promoting and capturing these styles in student dialogue. Understanding key disciplinary structures can help teachers to support students in the process of learning to reason. Understanding can support students to become fuller members of academic communities. Yet developing meta-awareness of language practices can benefit all students, regardless of future academic pathways, by illuminating discursive practices and empowering students to operate knowingly within these systems.

CONFLICT OF INTEREST

The author has no financial interest (or other potential benefits) which will follow from the direct applications of the research.

GEOLOCATION INFORMATION

Data was collected in the United Kingdom.

DATA AVAILABILITY STATEMENT

This article is largely theoretical and does not rely on a data set to a great extent. Data is available upon reasonable request from the author.

ETHICS STATEMENT

This project adhered to ethical guidelines for educational research as required by the School of Education at Durham University and based on the British Educational Research Association's Ethical Guidelines for Educational Research (BERA, 2018). Ethical approval was granted on 05.01.2018 by the Durham University School of Education's Ethics Committee.

ORCID

Michaela Oliver https://orcid.org/0000-0001-6774-1418

TWITTER

Michaela Oliver @michaela0liver

ENDNOTE

[1] Hodgson and Harris (2012; 2013) consider the importance of an epistemological approach to academic literacy where accepted knowledge in disciplines is demystified to students (see also Lea & Street, 1998). However, this does not explicitly link to reasoning or to the concept of reasoning styles.

REFERENCES

Asterhan, C. S. C., & Schwarz, B. B. (2016). Argumentation for learning: Well-trodden paths and unexplored territories. *Educational Psychologist*, *51*(2), 164–187. https://doi.org/10.1080/00461520.2016.1155458

Bawden, N. (1974). *Carrie's war*. Penguin.

Bertens, J. W. (2001). *Literary theory: The basics*. Routledge.

Blanchot, M. (1959). *Le livre à venir*. Gallimard.

British Educational Research Association. (2018). *Ethical guidelines for educational research* (4th ed.). British Educational Research Association.
Bruner, J. S. (1978). The role of dialogue in language acquisition. In A. Sinclair, R. J. Jarvelle, & W. J. M. Levelt (Eds.), *The child's concept of language*. Springer-Verlag.
Bruner, J. (1991). The narrative construction of reality. *Source*. *Critical Inquiry*, *18*(1), 1–21. https://doi.org/10.1086/448619
Bueno, O. (2012). Styles of reasoning: A pluralist view. *Studies in History and Philosophy of Science*, *43*, 657–665. https://doi.org/10.1016/j.shpsa.2012.07.008
Carrithers, M., Barry, A., Brady, I., Geetz, C., Kessing, R. M., Roth, P. A., & Whittaker, E. (1990). Is anthropology art or science? *Current Anthropology*, *31*(3), 263–282.
Centre for Research in Writing University of Exeter. (2016). *Written evidence—Centre for Research in Writing, University of Exeter*. http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/education-committee/primary-assessment/written/40810.html
Chalkiadaki, A. (2018). A systematic literature review of 21st century skills and competencies in primary education. *International Journal of Instruction*, *11*(3), 1–16. https://doi.org/10.12973/iji.2018.1131a
Childs, T., & Moore, J. (2003). *AS English literature for AQA B*. Heinemann Educational.
Christie, F. (2013). Genres and genre theory: A response to Michael Rosen. *Changing English*, *20*(1), 11–22. https://doi.org/10.1080/1358684X.2012.757056
Collins, A., & Ferguson, W. (1993). Epistemic forms and epistemic games: Structures and strategies to guide inquiry. *Educational Psychologist*, *28*(1), 25–42. https://doi.org/10.1207/s15326985ep2801_3
Croce, B., & Fudemoto, H. (2007). *Breviary of aesthetics: Four lectures*. University of Toronto Press.
Crombie, A. C. (1995). Commitments and styles of European scientific thinking. *History of Science*, 225–238. https://doi.org/10.1177/007327539503300204
Dahl, R. (2001). *Revolting rhymes!*. Puffin.
Daniels, H. (2001). *Vygotsky and pedagogy*. RoutledgeFalmer.
Department for Employment and Education. (1998). *The national literacy strategy: Framework for teaching*. DfEE.
Derrida, J. (1992). *Derrida and negative theology*. Suny Press.
DfE. (2014). *The national curriculum in England: Framework document*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381344/Master_final_national_curriculum_28_Nov.pdf
Education Endowment Foundation (EEF). (2018). *Teaching and learning toolkit*. https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/
Education Endowment Foundation. (2019). *Improving literacy in secondary schools*. https://educationendowmentfoundation.org.uk/tools/guidance-reports/improving-literacy-in-secondary-schools/
Ellis, J. M. (1974). *The theory of literary criticism: A logical analysis*. University of California Press.
Fairclough, N. (2013). *Critical discourse analysis: The critical study of language*, 2nd ed. Routledge.
Fang, Z. (2012). Language correlates of disciplinary literacy. *Topics in Language Disorders*, *32*(1), 19–34. https://doi.org/10.1097/tld.0b013e31824501de
Fernández, M., Wegerif, R., Mercer, N., & Rojas-Drummond, S. (2001). Re-conceptualizing scaffolding and the zone of proximal development in the context of symmetrical collaborative learning. *The Journal of Classroom Interaction*, *36*, 40–54. https://doi.org/10.2307/23869224
Frow, J. (2006). *Genre*. Routledge.
Frye, N. (1957). *Anatomy of criticism: Four essays*. University Press.
Gill, R. (2006). *Mastering English literature*, 3rd ed. Red Globe Press.
Hacking, I. (1982). Language, truth, and reason. In M. Hollis, & S. Lukes (Eds.), *Rationality and relativism*. Basil Blackwell.
Hacking, I. (1992). 'Style' for historians and philosophers. *Studies in History and Philosophy of Science Part A*, *23*(1), 1–20. https://doi.org/10.1016/0039-3681(92)90024-Z
Hacking, I. (2012). "Language, Truth and Reason" 30 years later. *Studies in History and Philosophy of Science*, *43*, 599–609. https://doi.org/10.1016/j.shpsa.2012.07.002
Hinchman, K. & O'Brien, D. (2019). Disciplinary literacy: From infusion to hybridity. *Journal of Literacy Research*, *51*(4), 525–536.
Hodgson, J., & Harris, A. (2012). Improving student writing at HE: Putting literacy studies to work. *English in Education*, *46*(1), 8–21. https://doi.org/10.1111/j.1754-8845.2011.01112.x
Hodgson, J., & Harris, A. (2013). "It is hard to know what you are being asked to do". Deciphering codes, constructing schemas. *English in Education*, *47*(1), 6–18. https://doi.org/10.1111/eie.12001
Howe, C. (2010). *Peer groups and children's development*. Wiley-Blackwell.
Kind, P., & Osborne, J. (2016). Styles of scientific reasoning: A cultural rationale for science education? *Science Education*, *101*(1), 8–31. https://doi.org/10.1002/sce.21251
Kharbe, A. (2009). *English language and literary criticism*. Discovery Pub. House.
Klages, M. (2006). *Literary theory: A guide for the perplexed*. Continuum.
Kusch, C. (2016). *Literary analysis: The basics*. Routledge.

Lave, J. (1988). *Cognition in practice*. Cambridge University Press. https://doi.org/10.1017/CBO9780511609268
Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
Lea, M. R., & Street, B. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education*, *23*(2), 157–172. https://doi.org/10.1080/03075079812331380364
Lefstein, A. (2008). Changing classroom practice through the English National Literacy Strategy: A micro-interactional perspective. *American Educational Research Journal*, *45*(3), 701–737. https://doi.org/10.3102/0002831208316256
Leighton, J. P. (2004). Defining and describing reason. In J. P. Leighton, & R. J. Sternberg (Eds.), *The nature of reasoning* (pp. 3–11). Cambridge University Press. https://doi.org/10.1017/CBO9780511818714.001
Lévi-Strauss, C. (1955). The structural study of myth. *The Journal of American Folklore*, *68*(270), 428–444. https://doi.org/10.2307/536768
Mayfield, T. D. (2010). *Literary structure and setting in Ezekiel*. Mohr Siebeck.
McPeck, J. E. (1981). *Critical thinking and education*. Martin Robertson.
Mercer, N. (2000). *Words and minds: How we use language to think together*. Routledge. https://doi.org/10.4324/9780203464984
Mercer, N. (2007). Sociocultural discourse analysis: Analysing classroom talk as a social mode of thinking. *Journal of Applied Linguistics and Professional Practice*, *1*(2), 137–168. https://doi.org/10.1558/japl.v1.i2.137
Mercer, N. (2013). The social brain, language, and goal-directed collective thinking: A social conception of cognition and its implications for understanding how we think, teach, and learn. *Educational Psychologist*, *48*(3), 148–168. https://doi.org/10.1080/00461520.2013.804394
Mercer, N., & Howe, C. (2012). Explaining the dialogic processes of teaching and learning: The value and potential of sociocultural theory. *Learning, Culture and Social Interaction*, *1*(1), 12–21. https://doi.org/10.1016/j.lcsi.2012.03.001
Morpurgo, M. (1999). *Kensuke's kingdom*. Heinemann.
Nersessian, N. J. (1995). Opening the black box: Cognitive science and history of science. *Constructing Knowledge in the History of Science*, *10*(10), 194–211. https://doi.org/10.1086/368749
Netz, R. (1999). *The shaping of deduction in Greek mathematics: A study in cognitive history*. Cambridge University Press.
Nickerson, R. S., Perkins, D. N., & Smith, E. E. (2013). *The teaching of thinking*. Psychology Press.
Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*(1), 1–13. https://doi.org/10.1177/1609406917733847
O'Brien, D. G., Moje, E. B., & Stewart, R. A. (2001). Exploring the context of secondary literacy: Literacy in people's everyday school lives. In E. B. Moje, & D. G. O'Brien (Eds.), *Constructions of literacy: Studies of teaching and learning in and out of secondary classrooms* (pp. 27–48). Erlbaum.
Osborne, J., Rafanelli, S., & Kind, P. (2018). Toward a more coherent model for science education than the cross-cutting concepts of the next generation science standards: The affordances of styles of reasoning. *Journal of Research in Science Teaching*, *55*(7), 962–981. https://doi.org/10.1002/tea.21460.
Perkins, D. (2006). Constructivism and troublesome knowledge. *Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge* (pp. 33–47). Routledge.
Rosmarin, A. (1985). *The power of genre*. University of Minnesota Press.
Rothwell, K. S. (1963). Structure in literature. *College English*, *24*(8), 602–607. https://doi.org/10.2307/372905
Roth, P. (1987). *Meaning and method in the social sciences: A case for methodological pluralism*. Cornell University Press.
Schwab, J. J. (1978). Education and the structure of the disciplines. In I. Westbury, & N. J. Wilkof (Eds.), *Science, curriculum and liberal education: Selected essays* (pp. 229–272). University of Chicago Press.
Sedova, K., Sedlacek, M., & Svaricek, R. (2016). Teacher professional development as a means of transforming student classroom talk. *Teaching and Teacher Education*, *57*, 14–25. https://doi.org/10.1016/j.tate.2016.03.005
Shanahan, T., & Shanahan, C. (2012). What is disciplinary literacy and why does it matter? *Topics in Language Disorders*, *32*(1), 7–18. https://doi.org/10.1097/TLD.0b013e318244557a
Standards and Testing Agency. (2015). *2016 Key stage 2 English reading test framework: National curriculum tests from 2016: For test developers*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/628816/2016_KS2_Englishreading_framework_PDFA_V3.pdf
Taylor, C. (1982). Rationality. In M. Hollis, & S. Lukes (Eds.), *Rationality and relativism* (pp. 87–105). Basil Blackwell.
Trilling, B., & Fadel, C. (2009). *21st Century skills: Learning for life in our times*. Jossey-Bass/John Wiley & Sons Inc.
Twain, M. (1979). *The prince and the pauper*. University of California Press.
Tweney, R. D. (2001). Scientific thinking: A cognitive-historical approach. In K. Crowley, C. D. Schuun, & T. Okada (Eds.), *Designing for science: Implications from everyday, classroom and professional settings*. Lawrence Erlbaum Associates.

van Drie, J., & van Boxtel, C. (2008). Historical reasoning: Towards a framework for analyzing students' reasoning about the past. *Educational Psychology Review*, *20*(2), 87–110. https://doi.org/10.1007/s10648-007-9056-1.
Vygotsky, L. S. (1962). *Thought and language*. MIT Press.
Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
Wegerif, R. (2010). *Mindexpanding: Teaching for thinking and creativity in primary education*. Open University Press.
Wells, G., & Claxton, G. (2002). *Learning for life in the 21st century: Sociocultural perspectives on the future of education*. Blackwell Publishers.
Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Harvard University Press.
Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Harvard University Press.
Wimsatt, W. K., & Beardsley, M. C. (1946). The Intentional Fallacy. *The Sewanee Review*, *54*(3), 468–488.
Ziman, J. (1978). *Reliable knowledge: An exploration of the grounds for belief in science*. Cambridge University Press.

How to cite this article: Oliver, M. (2021). What styles of reasoning are important in primary English? *The Curriculum Journal*, 00, 1–18. https://doi.org/10.1002/curj.120